

REMARKS

Claims 1 to 20, as amended, appear in this application for the Examiner's review and consideration. The amendments are fully supported by the specification and claims as originally filed. In particular, support for the recitations in the claims of the at least one of the nozzle diameter, the nozzle length, and nozzle to substrate separation is about equal to the gas mean free path length can be found at page 8, paragraph [0033], of the present specification. Therefore, there is no issue of new matter. In addition, the amendments to the independent claims add recitations that elaborate on the structure of the presently claimed invention, and, thus, do not affect the scope of the claims. The amendments only further clarify the claimed invention.

Claims 1 to 20 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement for the reasons set forth on pages 4 and 5 of the Office Action.

In response, Applicants submit that the recitation of "the organic material is transported by a transition flow regime or a free molecular flow regime" is fully supported by the specification and claims, as originally filed, and, thus, meets the written description requirement of 35 U.S.C. § 112, first paragraph. However, to facilitate the early allowance of the claims, that recitation has been deleted from the claims by this Amendment, mooted the rejection. Accordingly, it is respectfully requested that the Examiner withdraw the rejection of claims 1 to 20 under 35 U.S.C. § 112, first paragraph.

Claims 1 to 3, 10, 14 to 18, and 20 were rejected under 35 U.S.C. § 102(b), as allegedly being anticipated by U.S. Patent No. 4,788,082 to Schmitt, for the reasons set forth on page 5 of the Office Action. Claims 4, 5, 6, 9, 11, and 12 were rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Schmitt in view of U.S. Patent No. 6,468,605 to Shah et al. ("Shah") for the reasons set forth on page 6 of the Office Action. Claims 7 and 8 were rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Schmitt in view of Shah and further in view of Kirk-Othmer VACUUM TECHNOLOGY ("Kirk-Othmer"), and claims 13 and 19 were rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Schmitt in view of Shah and further in view of U.S. Patent No. 5,709,906 to Bickford et al. ("Bickford") for the reasons set forth on page 7 of the Office Action.

In response, Applicants submit that, the presently claimed invention is directed to a method of depositing an organic material, comprising: ejecting a carrier gas carrying an organic material from a nozzle at a flow velocity that is at least 10 % of the thermal velocity

of the carrier gas, such that the organic material is deposited onto a substrate, where the substrate is separated from the nozzle, and at least one of the nozzle diameter, the nozzle length, and nozzle-to-substrate separation is about equal to the gas mean free path length. Claim 1 further recites that a region between the nozzle and the substrate surrounding the carrier gas has a dynamic pressure of at least 1 Torr, and claim 11 further recites providing a guard flow around the carrier gas.

Schmitt discloses depositing a vapor of a chemical species onto a substrate to form a solid film with a high speed jet of an inert carrier gas. Column 2, lines 7 to 11. Schmitt does not disclose or suggest ejecting a carrier gas carrying an organic material from a nozzle at a flow velocity that is at least 10 % of the thermal velocity of the carrier gas, such that the organic material is deposited onto a substrate, separated from the nozzle, where at least one of the nozzle diameter, the nozzle length, and nozzle-to-substrate separation is about equal to the gas mean free path length. Therefore, the presently claimed invention is not anticipated by or obvious over Schmitt.

Shah does nothing to overcome the deficiencies of Schmitt. Shah discloses the deposition of an ultrasonically generated, aerosol spray of a pseudocapacitive metal compound or a precursor of the compound onto a heated conductive substrate, where the spray may be contained by a shroud gas. Column 2, lines 9 to 12; column 3, line 53. Shah does not disclose or suggest ejecting a carrier gas carrying an organic material from a nozzle at a flow velocity that is at least 10 % of the thermal velocity of the carrier gas, such that the organic material is deposited onto a substrate, separated from the nozzle, where at least one of the nozzle diameter, the nozzle length, and nozzle-to-substrate separation is about equal to the gas mean free path length. Therefore, the presently claimed invention is not obvious over Shah.

Moreover, even if the disclosures of Schmitt and Shah were combined, the combination would not provide the presently claimed invention. Therefore, the present claims are not obvious over the combination of Schmitt and Shah.

Kirk-Othmer does nothing to overcome the deficiencies of Schmitt and Shah. Kirk-Othmer discloses that pressures less than 0.1 Torr can be provided. Kirk-Othmer does not disclose or suggest ejecting a carrier gas carrying an organic material from a nozzle at a flow velocity that is at least 10 % of the thermal velocity of the carrier gas, such that the organic material is deposited onto a substrate, separated from the nozzle, where at least one of the nozzle diameter, the nozzle length, and nozzle-to-substrate separation is about equal to

the gas mean free path length. Therefore, the presently claimed invention is not obvious over Kirk-Othmer.

Moreover, even if the disclosure of Kirk-Othmer was combined with that of Schmitt and Shah, the combination would not provide the presently claimed invention. Therefore, the present claims are not obvious over the combination of Schmitt, Shah, and Kirk-Othmer.

Bickford does nothing to overcome the deficiencies of Schmitt and Shah. Bickford teaches the use of a glove box. Bickford does not disclose or suggest ejecting a carrier gas carrying an organic material from a nozzle at a flow velocity that is at least 10 % of the thermal velocity of the carrier gas, such that the organic material is deposited onto a substrate, separated from the nozzle, where at least one of the nozzle diameter, the nozzle length, and nozzle-to-substrate separation is about equal to the gas mean free path length. Therefore, the presently claimed invention is not obvious over Bickford.

Moreover, even if the disclosure of Bickford was combined with that of Schmitt and Shah, the combination would not provide the presently claimed invention. Therefore, the present claims are not obvious over the combination of Schmitt, Shah, and Bickford.

Therefore, as Schmitt, Shah, Kirk-Othmer, and Bickford, whether taken alone or in combination, do not disclose or suggest the presently claimed invention, the present claims are not anticipated by or obvious over those references. Accordingly, it is respectfully requested that the Examiner withdraw the rejections of the claims under 35 U.S.C. §§102(b) and 103(a).

Applicants thus submit that the entire application is now in condition for allowance, an early notice of which would be appreciated. Should the Examiner not agree with Applicants' position, a personal or telephonic interview is respectfully requested to discuss any remaining issues prior to the issuance of a further Office Action, and to expedite the allowance of the application.

No fee is believed to be due for the filing of this Amendment. Should any fees be due, however, please charge such fees to Deposit Account No. 11-0600.

Respectfully submitted,

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